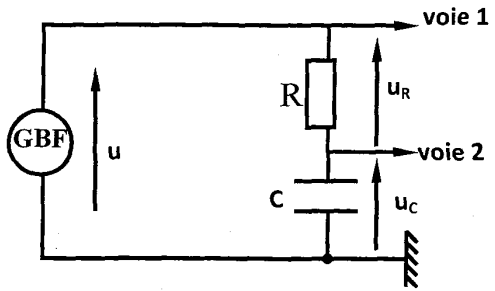
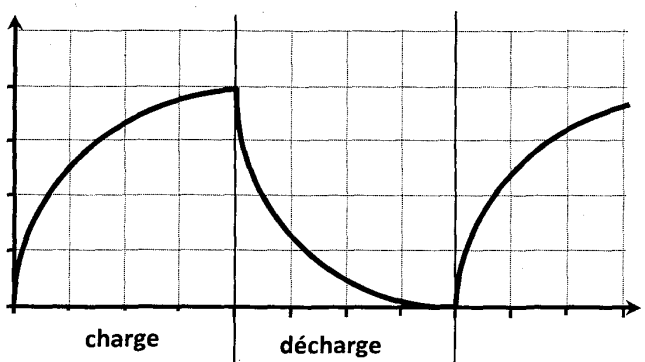
Exercice N° 11:

1°)



2°) a- la courbe (1) correspond à u (t): tension aux bornes du générateur.

b-



La courbe (2) correspond à $\mathbf{u_C(t)}$: tension aux bornes du condensateur.

3°) a- $\mathbf{N = \frac{1}{T}}$ **(T = 4 x 2 = 8 ms)**

$$\mathbf{N = \frac{1}{8.10^{-3}} = 127\ Hz.}$$

b- $\mathbf{E = 4 \times 2 = 8V}$

$$\mathbf{q_{max} = C \cdot E = 8.10^{-6}\ C.}$$

c- $\mathbf{t = \tau}$

$$\mathbf{u_c = 0{,}63E = 0{,}63.8 = 5v \Rightarrow \quad \tau = 1\ ms.}$$

4°) a- Loi des mailles :

$$\mathbf{u_R + u_C = u \Rightarrow RC\frac{du_c}{dt} + u_c = u}$$

b- Si u=E : $\mathbf{u_C - E(1 - e^{-t/RC})}$**. (charge).**

Si $\mathbf{u = 0 : u_C = E \cdot e^{-t/RC}}$**. (décharge)**

Exercice N°12 :

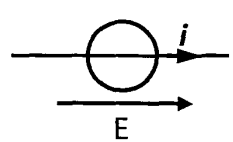
1er partie :

1°) a- position (1) ⟶ charge

position (2) ⟶ décharge

b- générateur de tension

$$\mathbf{u_C = \frac{q}{C}\ or\ i = \frac{dq}{dt} \Rightarrow q = \int idt}$$



générateur d'intensité

: I = constante ⇒ q = I.t